

IN THE CLAIMS:

This listing of the claims replaces all prior versions and listings of the claims in this application.

The text of all pending claims (including any withdrawn claims) is set forth below. Canceled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strike through~~. The status of each claim is indicated with one of (Original), (Currently amended), (Canceled), (Withdrawn), (Previously presented), (New), and (Not entered).

Please AMEND claims 47-56, 58, 62, 67, 68, 70, 72, 74, 75, 77, and 80 and ADD new claims 81 and 82 in accordance with the following (no additional claim fee is required to add new claims 81 and 82):

1.-46. (Canceled)

47. (Currently amended) A data storage medium comprising:

audio/video (AV) data; and

~~mark-up documents~~ at least one application to reproduce the AV data in an interactive mode by displaying the AV data on an AV screen embedded in ~~a mark-up~~ an interactive mode screen displaying interactive contents associated with the AV data when the ~~mark-up documents are at least one application is~~ interpreted by a presentation engine of an apparatus to reproduce data in which the data storage medium is loaded;

wherein the ~~mark-up documents comprise~~ at least one application comprises:

a plurality of mark-up documents corresponding to different parental levels; and

a start-up mark-up document specifying which one of the plurality of mark-up documents corresponding to different parental levels is to be interpreted by the presentation engine of the apparatus depending on a parental level set in the apparatus.

48. (Currently amended) The data storage medium of claim 47, wherein the start-up mark-up document comprises:

meta-information indicating ~~a parental level~~ levels of the plurality of mark-up documents corresponding to different parental levels; and

link information identifying locations of the plurality of mark-up documents corresponding to different parental levels.

49. (Currently amended) The data storage medium of claim 48, wherein the plurality of mark-up documents corresponding to different parental levels comprise:

a first mark-up document to be interpreted by the presentation engine of the apparatus only when the parental level indicated by the meta-information is not higher than the parental level set in the apparatus; and

a second mark-up document to be interpreted by the presentation engine of the apparatus only when the parental level indicated by the meta-information is higher than the parental level set in the apparatus; and

~~wherein~~ the link information comprises

first link information identifying the location of the first mark-up document; and

second link information identifying the location of the second mark-up document.

50. (Currently amended) The data storage medium of claim 47, wherein each mark-up document of the plurality of mark-up documents corresponding to different parental levels corresponds to a different one of the different parental levels, and is to be interpreted by the presentation engine of the apparatus only when the parental level of the mark-up document is the same as a parental level set in the apparatus; and

~~wherein~~ the start-up mark-up document comprises link information identifying locations of the plurality of mark-up documents corresponding to different parental levels.

51. (Currently amended) The data storage medium of claim 47, wherein the AV data comprises DVD-video data;

~~wherein the mark-up documents comprise:~~

the at least one application comprises:

documents written in a mark-up language; and/or

documents to which source code written in a script language and/or Java is linked; and/or

documents into which source code written in the script language and/or Java is inserted; and/or

mark-up resources; and
~~wherein~~ the different parental levels comprise different parental levels according to a DVD-video standard.

52. (Currently amended) A data storage medium comprising:
a video directory;
audio/video (AV) data stored in the video directory;
an interactive directory; and
~~mark-up documents, at least one application,~~ stored in the interactive directory, to reproduce the AV data in an interactive mode by displaying the AV data on an AV screen embedded in ~~a mark-up an interactive mode~~ screen displaying interactive contents associated with the AV data when the ~~mark-up documents are at least one application is~~ interpreted by a presentation engine of an apparatus to reproduce data in which the data storage medium is loaded;
wherein the interactive directory comprises a plurality of sub-directories corresponding to a plurality of different parental levels; and
~~wherein the mark-up documents comprise the at least one application comprises a~~ plurality of mark-up documents corresponding to the plurality of different parental levels stored in corresponding ones of the plurality of sub-directories corresponding to the plurality of different parental levels.

53. (Currently amended) A data storage medium comprising:
a video directory;
audio/video (AV) data stored in the video directory;
an interactive directory;
~~mark-up documents, at least one application,~~ stored in the interactive directory, to reproduce the AV data in an interactive mode by displaying the AV data on an AV screen embedded in ~~a mark-up an interactive mode~~ screen displaying interactive contents associated with the AV data when the ~~mark-up documents are at least one application is~~ interpreted by a presentation engine of an apparatus to reproduce data in which the data storage medium is loaded;

wherein the interactive directory comprises a plurality of sub-directories corresponding to a plurality of different parental levels; and

~~wherein the mark-up documents comprise:~~

the at least one application comprises:

a plurality of mark-up documents corresponding to the plurality of different parental levels stored in corresponding ones of the plurality of sub-directories corresponding to the plurality of different parental levels; and

a start-up mark-up document comprising link information identifying locations of the plurality of mark-up documents corresponding to the plurality of different parental levels.

54. (Currently amended) The data storage medium of claim 53, wherein the link information is written using a different link tag for each of the plurality of mark-up documents corresponding to the plurality of different parental levels.

55. (Currently amended) A data storage medium comprising:

audio/video (AV) data; and

~~mark-up documents~~ at least one application to reproduce the AV data in an interactive mode by displaying the AV data on an AV screen embedded in ~~a mark-up~~ an interactive mode screen displaying interactive contents associated with the AV data when the ~~mark-up documents~~ are at least one application is interpreted by a presentation engine of an apparatus in which the data storage medium is loaded;

wherein the ~~mark-up documents~~ comprise at least one application comprises a mark-up document comprising, or linked to, display rule information for a plurality of different parental levels specifying whether to display the interactive contents associated with the AV data depending on a parental level set in the apparatus.

56. (Currently amended) The data storage medium of claim 55, wherein the display rule information for the plurality of different parental levels specifies whether to display elements of the at least one application and/or the mark-up documents ~~document~~ depending on the parental level set in the apparatus.

57. (Previously presented) The data storage medium of claim 55, wherein the display rule information is written according to cascading style sheets (CSS) rules.

58. (Currently amended) The data storage medium of claim 55, wherein elements of the at least one application and/or the mark-up documents-document each have a class attribute; and

~~wherein~~ the display rule information for the plurality of different parental levels specifies whether to display each of the elements depending on a value of the class attribute of the element and the parental level set in the apparatus.

59. (Previously presented) The data storage medium of claim 58, wherein the display rule information is written in the form of a cascading style sheets (CSS) file to which the mark-up document comprising, or linked to, display rule information for a plurality of different parental levels is linked.

60.–61. (Canceled)

62. (Currently amended) An apparatus to reproduce data recorded on a data storage medium, the data comprising audio/video (AV) data, and ~~mark-up documents~~ at least one application to reproduce the AV data in an interactive mode, the ~~mark-up documents~~ at least one application comprising a mark-up document comprising display rule information for a plurality of different parental levels, the apparatus comprising:

an optical pickup to radiate laser beams on the data storage medium to read the ~~mark-up documents~~ at least one application and the AV data from the data storage medium;

an AV decoder to decode the AV data read by the optical pickup to reproduce the AV data;

a presentation engine to interpret the ~~mark-up documents~~ at least one application read by the optical pickup to generate ~~a mark-up~~ an interactive mode screen having an AV screen embedded therein; and

a blender to blend the ~~mark-up~~ interactive mode screen generated by the presentation engine and the AV data reproduced by the decoder so that the reproduced AV data is displayed on the AV screen embedded in the ~~mark-up~~ interactive mode screen;

wherein the presentation engine:

identifies a value of a predetermined attribute of an element of one of the at least one application or an element of the mark-up documents document; and

determines whether to display the element on the ~~mark-up~~interactive mode screen depending on the value of the predetermined attribute, the display rule information, and a parental level set in the apparatus.

63. (Previously presented) The apparatus of claim 62, wherein the display rule information is written according to cascading style sheets (CSS) rules.

64. (Previously presented) The apparatus of claim 63, wherein the display rule information is written in a form of a CSS file.

65. (Previously presented) The apparatus of claim 62, wherein the predetermined attribute is a class attribute.

66. (Previously presented) The apparatus of claim 62, wherein the display rule information for each of the plurality of different parental levels comprises individual display rule information for each higher one of the plurality of different parental levels.

67. (Currently amended) An apparatus to reproduce data from a data storage medium, the data comprising
audio/video (AV) data, and
~~mark-up documents at least one application~~ to reproduce the AV data in an interactive mode by displaying the AV data on an AV screen embedded in a ~~mark-up~~an interactive mode screen displaying interactive contents associated with the AV data,
the ~~mark-up documents at least one application~~ comprising a mark-up document comprising instructions corresponding to different parental levels to control display of the interactive contents associated with the AV data depending on a parental level set in the apparatus,
the apparatus comprising:

an optical pickup to radiate laser beams on the data storage medium to read the ~~mark-up documents-at least one application~~ and the AV data from the data storage medium; and

a presentation engine to interpret the mark-up ~~document-document~~ comprising the instructions corresponding to the different parental levels in the ~~mark-up documents-at least one application~~ read by the optical pickup to determine whether to display the interactive contents associated with the AV data depending on the parental level set in the apparatus.

68. (Currently amended) The apparatus of claim 67, wherein the presentation engine interprets the ~~mark-up documents-at least one application~~ read by the optical pickup to generate the ~~mark-up-an interactive mode~~ screen having the AV screen embedded therein; and

~~wherein~~ the apparatus further comprises:

an AV decoder to decode the AV data read by the optical pickup to reproduce the AV data; and

a blender to blend the ~~mark-up-interactive mode~~ screen generated by the presentation engine and the AV data reproduced by the decoder so that the reproduced AV data is displayed on the AV screen embedded in the ~~mark-up-interactive mode~~ screen.

69. (Previously presented) The apparatus of claim 67, wherein the presentation engine comprises plug-ins.

70. (Currently amended) The apparatus of claim 67, wherein the apparatus has a capability of retrieving AV data and ~~mark-up documents-applications~~ through a network.

71. (Previously presented) The apparatus of claim 67, wherein the different parental levels comprise G, PG, PG13, R, and NC-17 parental levels defined by a DVD-video standard for compatibility.

72. (Currently amended) The apparatus of claim 67, wherein the AV data comprises DVD-video data; and

~~wherein~~ the different parental levels comprise different parental levels according to a DVD-video standard for compatibility.

73. (Previously presented) The apparatus of claim 67, wherein the presentation engine uses an application program interface (API) to identify the parental level set in the apparatus.

74. (Currently amended) The apparatus of claim 67, wherein the ~~mark-up documents~~ comprise at least one application comprises a plurality of mark-up documents corresponding to the different parental levels; and

~~wherein~~ the mark-up document comprising the instructions corresponding to the different parental levels is a start-up mark-up document comprising:

meta-information indicating ~~a the parental level levels~~ of the plurality of mark-up documents corresponding to the different parental levels; and

link information identifying locations of the plurality of mark-up documents corresponding to the different parental ~~level~~ levels.

75. (Currently amended) The apparatus of claim 74, wherein each mark-up document of the plurality of mark-up documents corresponding to the different parental levels corresponds to a different one of the different parental levels, and is to be interpreted by the presentation engine only when the parental level of the mark-up document is the same as the parental level set in the apparatus.

76. (Previously presented) The apparatus of claim 74, wherein the presentation engine uses an application program interface (API) to identify the parental level set in the apparatus.

77. (Currently amended) The apparatus of claim 67, wherein the data storage medium comprises:

a video directory in which the AV data is stored; and

an interactive directory in which the ~~mark-up document are~~ at least one application is stored.

78. (Previously presented) The apparatus of claim 67, wherein the mark-up document comprising the instructions corresponding to the different parental levels comprises a mark-up document comprising, or linked to, display rule information for the different parental levels written according to cascading style sheets (CSS) rules.

79. (Previously presented) The apparatus of claim 78, wherein the mark-up document comprising, or linked to, display rule information is linked to a CSS file comprising the instructions corresponding to the different parental levels written according to the CSS rules.

80. (Currently amended) The apparatus of claim 67, wherein the ~~mark-up documents~~ comprise at least one application comprises:

documents written in a mark-up language; and/or
documents to which source code written in a script language and/or Java is linked;
and/or
documents into which source code written in the script language and/or Java is inserted;
and/or
mark-up resources.

81. (New) The data storage medium of claim 47, wherein the one of the plurality of mark-up documents corresponding to different parental levels that is specified by the start-up mark-up document is a mark-up document that is to be automatically interpreted by the presentation engine before the presentation engine interprets any other mark-up document except the start-up mark-up document and before any of the AV data is reproduced and displayed on the interactive mode screen in the interactive mode.

82. (New) The apparatus of claim 67, wherein the mark-up document comprising instructions corresponding to different parental levels is a mark-up document that is to be automatically interpreted by the presentation engine either (1) before the presentation engine interprets any other mark-up document except a start-up mark-up document of the mark-up documents and before any of the AV data is reproduced and displayed on the interactive mode screen, or (2) before the presentation engine interprets any other mark-up document and before any of the AV data is reproduced and displayed on the interactive mode screen.